

Amendments To The Claims

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (currently amended) Rotating regulating device ~~(1)~~ for the rotation and/or linear displacement of an actuating element ~~(2)~~ of a valve, throttle, blowout preventer or similar, in particular in the field of gas or oil production, with a spindle drive ~~(3)~~ and a drive train ~~(4)~~ rotationally driving the spindle drive, the said drive train exhibiting at least one reduction gear unit ~~(5)~~ and a drive device ~~(6)~~ connected to it for movement, ~~characterised~~ characterized in that the rotating spindle ~~(7)~~ or nut ~~(8)~~ of the spindle drive ~~(3)~~ exhibits at least one engaging element ~~(9, 10)~~, essentially protruding radially outwards, which engages guide slots ~~(11, 12, 13, 14)~~, whereby a first guide slot ~~(11, 13)~~ is fixed relative to a device housing ~~(15)~~ and a second guide slot ~~(12, 14)~~ can be rotated relative to the device housing and/or is supported for displacement in the longitudinal direction of the rotating spindle ~~(16)~~, whereby the guide slots ~~(11, 13, 12, 14)~~ exhibit at least different slopes in the longitudinal direction of the rotating spindle and the movable guide slot ~~(12, 14)~~ is connected for movement to the actuating element ~~(2)~~.
2. (currently amended) Rotating regulating device according to claim 1, ~~characterised~~ characterized in that the guide slots ~~(11, 13, 12, 14)~~ are formed in a first fixed collar ~~(17)~~ which is fixed in the device housing ~~(15)~~, and a rotating collar ~~(18)~~ which is at least supported for rotation relative to the said fixed collar.
3. (currently amended) Rotating regulating device according to claim 1 ~~or 2~~, ~~characterised~~ characterized in that the first and second guide slots ~~(11, 13, 12, 14)~~ are formed in opposing pairs relative to the rotating spindle ~~(7)~~.
4. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims~~, ~~characterised~~ characterized in that the rotating spindle ~~(7)~~ is supported so that it can be rotated, but is axially immovable, and the nut ~~(8)~~ can be displaced along the rotating spindle ~~(7)~~ and can be rotated relative to it.
5. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims~~, ~~characterised~~ characterized in that the rotating spindle ~~(7)~~ and nut ~~(8)~~ form a ball spindle drive ~~(19)~~.

6. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that two engaging elements ~~(9, 10)~~, protruding radially outwards, are fastened to the nut ~~(8)~~, in particular releasably.
7. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the engaging elements ~~(9, 10)~~ are arranged spaced to one another in the circumferential direction ~~(20)~~ of the nut ~~(8)~~, in particular by 180°.
8. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the fixed collar ~~(17)~~ is fixed releasably to an inner wall ~~(21)~~ of the device housing ~~(15)~~.
9. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that at least two mounting bolts ~~(22)~~ are fitted from the direction of the device housing ~~(15)~~ into the fixed collar ~~(17)~~ from a radial direction.
10. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterized~~ characterized in that the rotating collar ~~(18)~~ can be rotated at its ends ~~(23, 24)~~, but is supported so that it is axially immovable.
11. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the rotating collar ~~(18)~~ is rotationally rigidly connected at its end ~~(23)~~ facing the actuating element ~~(2)~~ to the said actuating element.
12. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the rotating collar ~~(18)~~ exhibits a ring-flange ~~(25)~~ on its front end ~~(23)~~, protruding radially inwards, on which the rotating spindle ~~(7)~~, in particular on a first end ~~(26)~~, is supported rotationally.
13. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the rotating spindle ~~(7)~~ is connected for movement by its second end ~~(27)~~ to the reduction gear unit ~~(5)~~.

14. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the reduction gear unit (5) is formed as a so-called harmonic drive (28).

15. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the flexible, cup-shaped sleeve (29) of the harmonic drive (28) is connected, in particular releasably, to the second end (27) of the rotating spindle (7).

16. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the wave generator (30) of the harmonic drive (28) is connected, in particular releasably, to a driven shaft (31) of the drive train (4).

17. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the driven shaft (31) is composed of different shaft segments (33, 34, 35, 36), arranged one behind the other.

18. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that a shaft segment (34) is a spurwheel formed with an outer tooth arrangement (37).

19. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the spurwheel (34) is a worm wheel (40) engaging at least one worm (38, 39) via the outer tooth arrangement (37).

20. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the spurwheel (34) is a helically toothed spurwheel (43) engaging at least one helically toothed chive wheel (41, 42) via the outer tooth arrangement (37).

21. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the shaft segment (35) adjacent to the spurwheel (34) is supported rotationally inside the device housing (5) using pivot bearings (44, 45).

22. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that a position sensor (46) is assigned to the shaft segment (36) terminating the driven shaft (31).
23. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the worm (38, 39) is essentially arranged centrally on a drive shaft (47, 48) which is arranged perpendicular to the driven shaft (31).
24. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that at least one motor (51, 52), in particular an electric motor, is assigned to both ends (49, 50) of the drive shaft (47, 48).
25. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that drive shafts (47, 48) are arranged in pairs opposite relative to the driven shaft (31).
26. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the drive shaft (47, 48) is at least supported floating at one end.
27. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the drive shafts (47, 48, 53, 54) are mechanically synchronised in their rotational movements using a mechanical coupling device (72) with toothed belt (74), chain or similar.
28. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that the drive shafts (47, 48, 53, 54) are electronically synchronised in their rotational movement using the motors (51, 52, 56, 57).
29. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous claims, characterised~~ characterized in that for a double helical gear (62) consisting of a helically toothed drive wheel (41, 42) and a helically toothed spurwheel (43), the drive shafts (53, 54) are arranged parallel to the driven shaft (31).

30. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous~~
~~claims, characterised~~ characterized in that with a double helical gear (62) at least two motors (56,
57) are assigned to an end (55) of the drive shaft (53, 54).

31. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous~~
~~claims, characterised~~ characterized in that a reduction gear unit (58), in particular a harmonic
drive (59), is arranged between the motor (56, 57) and a helically toothed drive wheel (41, 42).

32. (currently amended) Rotating regulating device according to claim 1 ~~one of the previous~~
~~claims, characterised~~ characterized in that the drive shaft (53, 54) is connected for movement to
the flexible, cup-shaped sleeve (60) of the harmonic drive (59) and the helically toothed drive
wheel (41, 42) is connected for movement to the wave generator (61).